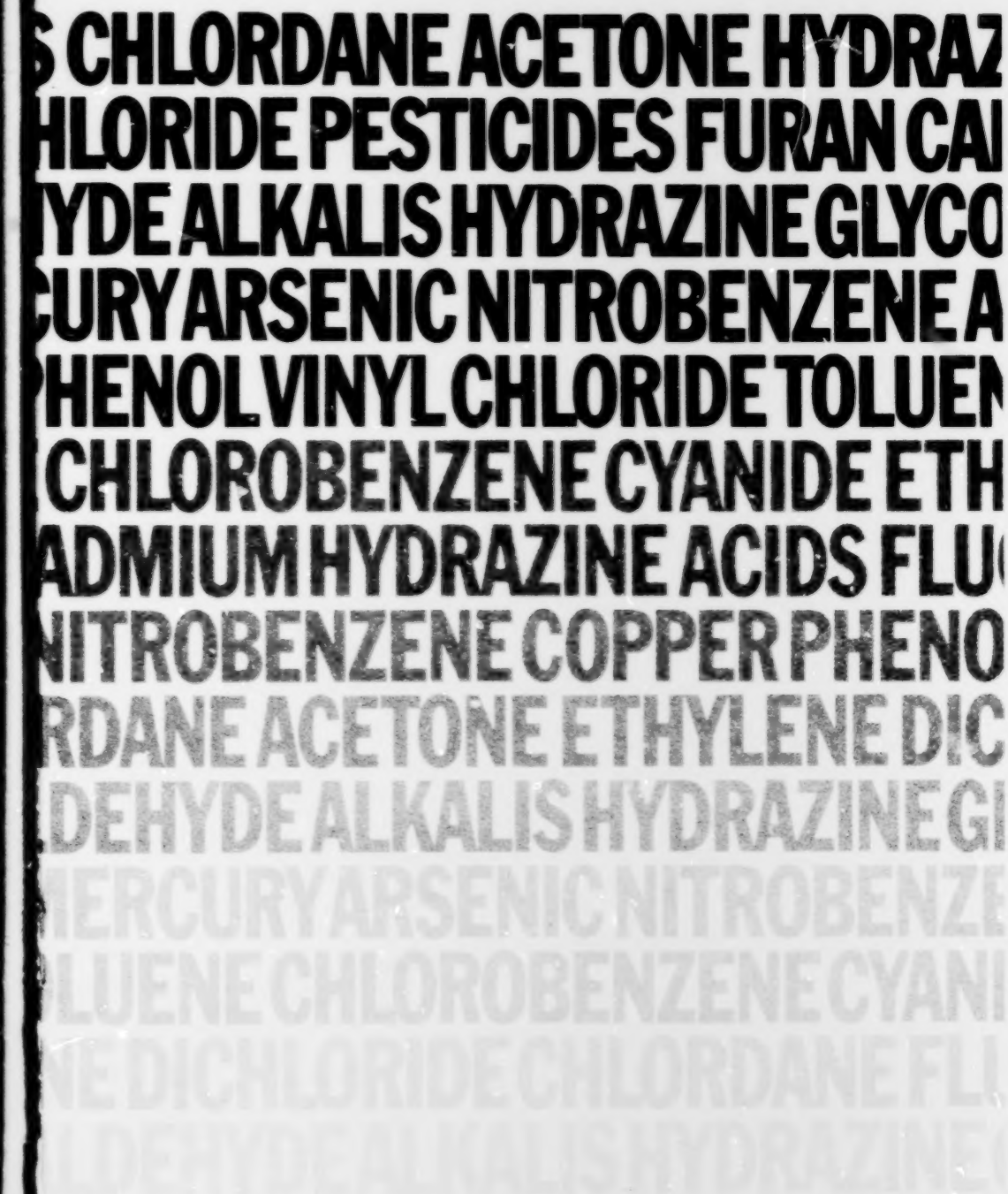
Hazardous wastes: let's treat them right



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OWMC
Ontario Waste Management Corporation
A Provincial Crown Agency

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Introduction

Hazardous wastes — their safe treatment and disposal is the major environmental challenge of the 1980s. Although most hazardous wastes are generated by industry, their safe management should concern us all. As long as we enjoy the benefits of industrial production — the cars we drive, the paper we write on, the clothes we wear, the plastic toys we buy for our children — we must have an interest in the problems created by industrial waste. Our health and the health of our environment could depend on it.

In this handbook you will learn some important facts about the hazardous waste issue:

- ☐ where the wastes come from and the types of problems they can cause;
- ☐ how hazardous wastes are managed in other countries;
- ☐ the Ontario Waste Management Corporation (OWMC) and how it plans to treat industrial wastes; and
- ☐ how you can get involved in helping to shape the future of waste management in this province.

While we do not yet have all the answers to Ontario's waste management problems, finding these answers requires an understanding of the problems as they exist today. Let's begin there.

1. The problem of hazardous wastes

Why do we have wastes?

If all the raw material needed to manufacture a television set ended up in the TV, there would be no problem. But of course it doesn't work that way. In any manufacturing process there are two pathways - one leading to the product, in this case the TV, and the other generating apparently useless by-products, the wastes. In fact many of these wastes may still be useful and find their way back into the manufacturing process through recycling or waste recovery. Some wastes, however, are unavoidable and require careful treatment and disposal if they are not to become a threat to human health and the environment.

Why are some wastes hazardous?

Wastes are hazardous when they pose some level of threat to human health or the environment. Also known as *special wastes*, these are industrial by-products that require special care in their handling, transportation, storage, treatment and disposal. Most special wastes are unsuitable for treatment in municipal incinerators and sewage treatment plants and should not be disposed of in ordinary sanitary landfills.

Not all wastes are equally hazardous. For example, pesticide or cyanide wastes, although found in relatively small quantities, pose a greater immediate threat to human health and the environment than much larger quantities of oily water. The total quantity of a waste often is not a good indicator of the danger it represents.

What are these wastes like?

Special wastes come in various forms. They can be watery, with a high content of dissolved metal contaminants or toxic chemicals. They can be in the form of thick, semi-solid sludges such as some paint

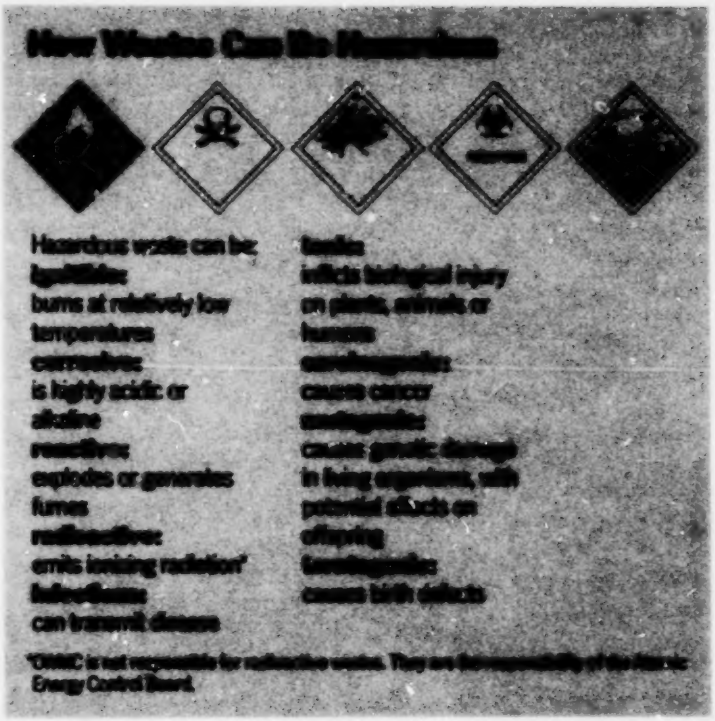

Hazardous waste can be:
burns at relatively low temperatures
is highly acidic or alkaline
explodes or generates fumes
emits ionizing radiation*
can transmit disease
inflicts biological injury on plants, animals or humans
causes cancer
causes genetic damage in living organisms, with potential effects on offspring
causes birth defects

Photo courtesy Panasonic Canada

In TV manufacturing, as in any manufacturing process, there are two streams. One leading to the end product, the other generating apparently useless by-products, the wastes.

Boarded up homes at Love Canal. A silent testimony to how not to dispose of hazardous wastes.

manufacturing wastes or material left after petroleum refining. Some are oils and greases that have become contaminated in industrial use.

Where do industrial wastes come from?

Most industries produce some kind of hazardous waste. Here are some examples:

- Petroleum refining produces wastes in the form of organic chemicals, sludges and toxic metals;
- Metal finishing generates cyanide wastes, spent acids and solvents;
- The plastics industry creates waste resins, latex and a number of hazardous organic chemicals;
- Leather tanning wastes contain chromium, a toxic heavy metal requiring careful treatment and disposal;
- Pesticide manufacturers generate various hazardous organic chemicals.

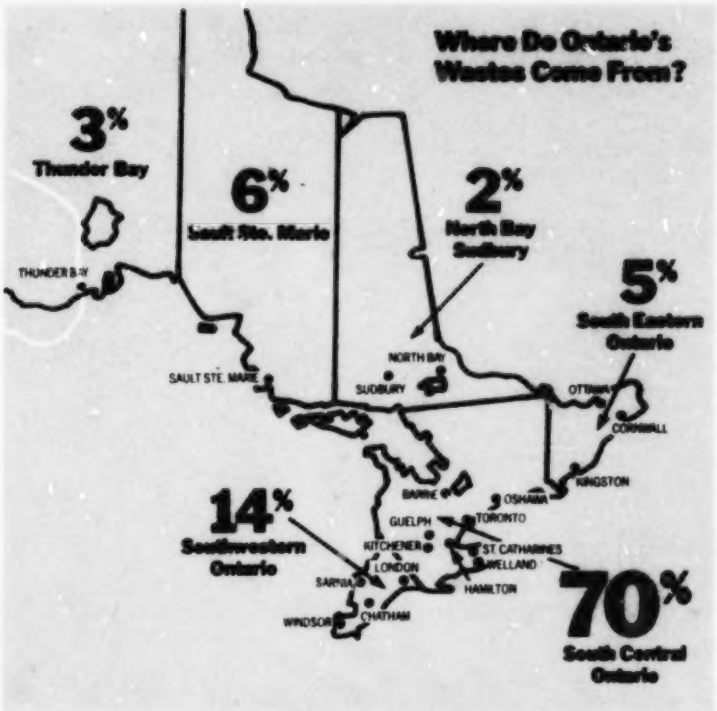
Not all hazardous wastes come from industry. Some are common household products that we often discard or flush down the drains without thinking. Here are a few examples:

- Pesticides (bug killers)
- Herbicides (weed killers)
- Paint
- Solvents (paint thinner, oven cleaner)
- Waste oil (automobile oil change)
- Disinfectants
- Aerosols.

Though the quantities we use and dispose of individually may be small, for a large urban community the total environmental impact of these wastes can be significant. For information on how to dispose of hazardous household wastes, please contact the Ontario Ministry of the Environment, Waste Management Branch, Industrial Waste Management Policy Section, 135 St. Clair Avenue West, Suite 100, Toronto, Ontario, M4V 1P5, telephone: (416) 965-9668.

dump toxic wastes on farmlands"
Deadly PCB stored in 5 public sites
Burial of wastes opposed
Liquid waste problem
Chemical wastes found in water
'All-out fight' pledged for dump cleanu
traces
residents

Headlines such as these reflect growing public concern about industrial waste management.



Some common household products contribute to hazardous wastes, both in their manufacture and in their disposal.

Photo courtesy Environment Canada

What problems are caused by hazardous wastes?

The best known example is, of course, Love Canal in New York State, where raw, untreated wastes were dumped in a simple landfill for many years. These wastes later leaked into a subdivision built adjacent to the dump site. It was only when local residents began to notice high incidences of certain medical problems that the situation came to light. Eventually the whole subdivision was abandoned to become a silent testimony to how **not** to dispose of toxic wastes.

A major concern is that toxic wastes dumped into old and inadequately engineered landfills may leak. Even though these landfills may no longer be receiving wastes, they still present a potential threat and require careful monitoring.

Industry now uses more than 55,000 different chemicals and more than 700 new ones are introduced each year. We do not have enough information to predict what the impact of each of these chemicals might be on human health and the environment.

We have learned, however, that we cannot give industrial waste chemicals the benefit of the doubt. Unless they are very carefully managed, we are running the risk of future environmental and human tragedies.

How much special waste is generated in Ontario?

The federal government recently estimated that at least 3.2 million tonnes* of special wastes are generated in Canada each year[1]. As the industrial heartland of the country, Ontario generates almost half of the national total – an estimated 1.5 million tonnes[2].

However, these are only estimates. There are over 16,000 industrial facilities in Ontario which produce special waste. Most of these are small to medium sized plants and it is difficult to measure how much waste some of them are producing.

*Tonne – metric measure equivalent to 1.102 short tons or 2204 lbs. 1 tonne of liquid approximately equals 220 imperial gallons.

[1] *Canada National Inventory of Hazardous and Toxic Wastes*. Gore and Storrie, 1982.
[2] *Waste Quantities Study*. Proctor and Redfern Limited, Weston Designers-Consultants and Ontario Research Foundation. September 1982.

2. Managing industrial wastes

What is waste management?

Waste management is not just a fancy term for waste disposal. It means much more. A comprehensive waste management system should include provisions for:

Reduction: attacking the problem at source and finding ways to reduce wastes at the manufacturing stage;

Recycling: recycling all wastes that can be used economically for their energy content or other properties;

Exchange: creating an effective waste exchange system for determining when one industry's wastes can become another industry's raw materials;

Collection & Transportation: providing an economically feasible and environmentally safe means of collecting wastes from the industries that generate them and transporting them to treatment facilities;

Treatment: providing effective treatment for unavoidable wastes to ensure that their hazardous properties are eliminated or reduced to a minimum;

Disposal: disposing of any treatment residues, preferably in a solid form, in a properly engineered, controlled and monitored landfill facility.

How are hazardous wastes handled elsewhere?

Progress is being made in hazardous waste management all over the industrialized world. Some European countries have been the forerunners in advanced treatment developments.

In both West Germany and Denmark, high-technology waste treatment complexes have been in operation for nearly a decade. These plants take raw industrial wastes and treat them using high temperature incineration and a variety of other treatment processes which reduce or eliminate their toxic properties. Only the treated residues are placed in a landfill. Extensive pollution control equipment ensures that any liquid or airborne emissions meet required environmental standards and regulations.

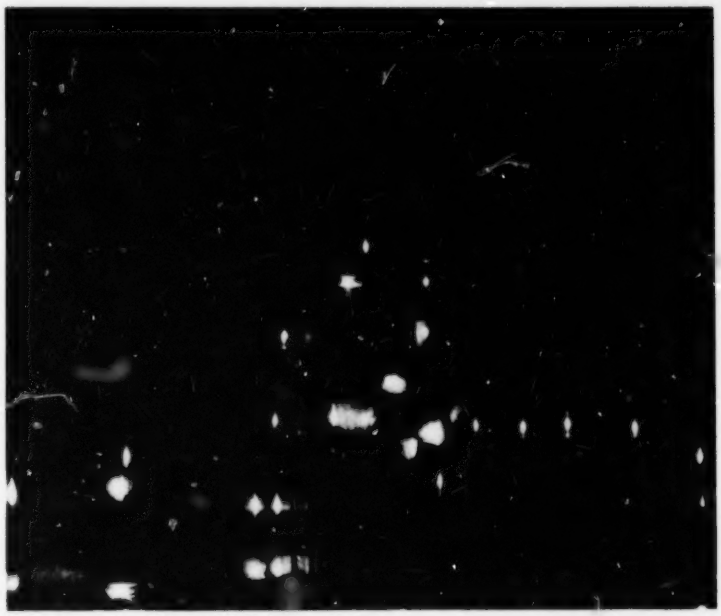
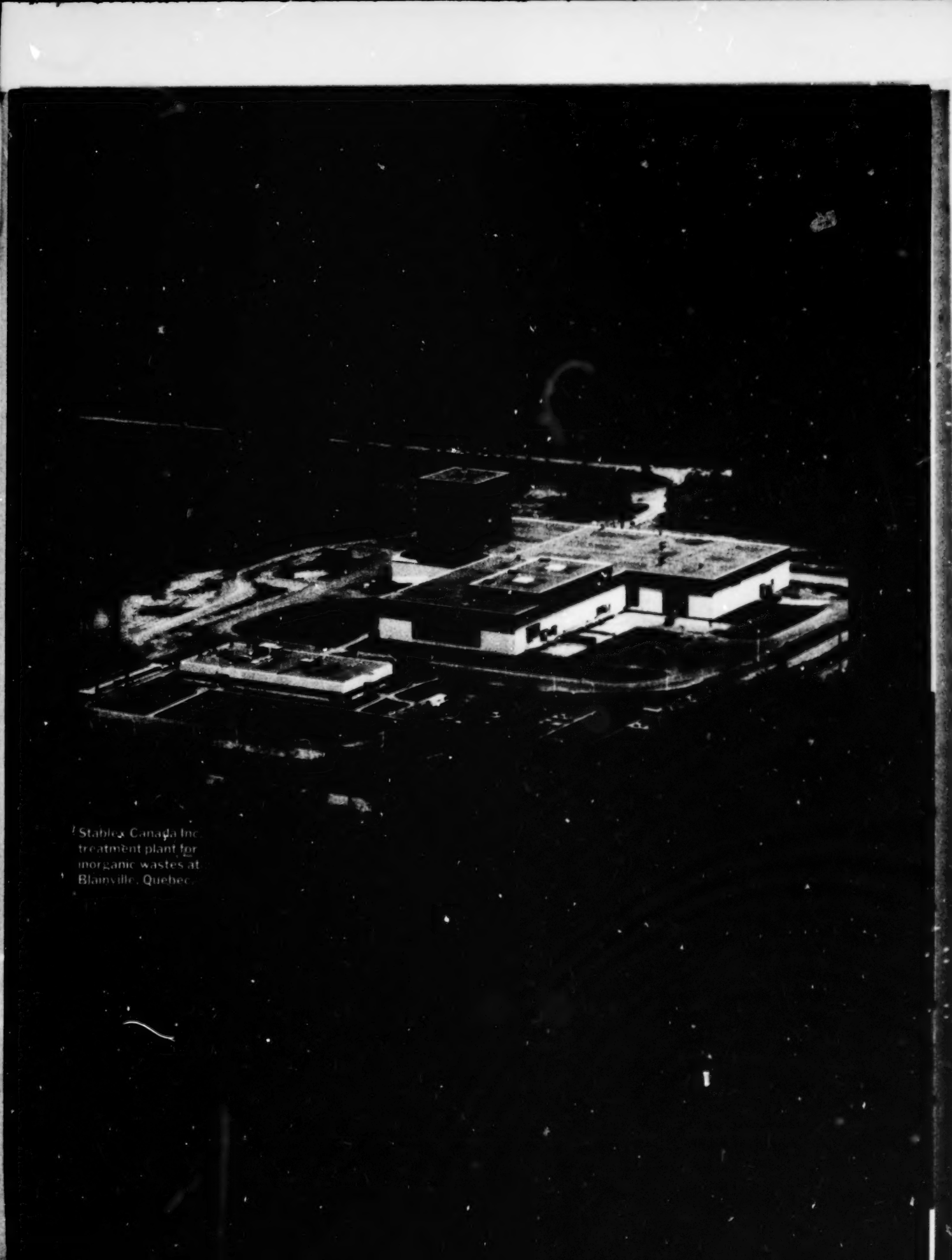


Photo courtesy Dow Chemical Canada Inc

This rotary kiln incinerator in Louisiana destroys organic hazardous wastes at temperatures up to 1300°C.

The United States introduced a Resource Conservation and Recovery Act (RCRA) in 1976 which provides regulatory guidelines for a waste management system. There are some waste treatment and disposal facilities now operating in the U.S., although not all problems have been resolved. For example, untreated industrial wastes are still being placed in large landfills and deep well disposal sites. Citizens' involvement in waste management issues in the United States, however, has prompted some industries to adopt even more stringent controls than originally laid out in the 1976 guidelines.

In Canada, a new treatment facility for industrial wastes is in operation at Blainville, Quebec (near Montreal). There, treated waste residues are solidified to "trap"



Stablex Canada Inc
treatment plant for
inorganic wastes at
Blainville, Quebec.

hazardous constituents within a concrete-like material which is then deposited in a specially engineered landfill.

The government of Alberta is developing a hazardous waste treatment facility which will involve waste collection stations, a central treatment facility and an engineered landfill site. British Columbia and Manitoba are also developing provincial waste management systems for hazardous industrial wastes.

What happens now to Ontario's hazardous waste?

Most large companies in Ontario treat wastes on their own premises. Where companies do not have their own treatment capability the wastes usually are shipped to outside facilities. Because existing Ontario facilities are not able to handle all types of wastes, this sometimes involves shipping wastes to other provinces or to the United States.

Some hazardous wastes are discharged into sewers, sometimes causing problems for municipal water pollution control plants and the environment. Other wastes are simply being placed in storage until suitable treatment facilities are available in Ontario. And some still go into landfills that were not intended to receive them.

Photo courtesy Environment Canada

European facilities, such as this incinerator in West Germany, have been world leaders in developing waste management technology.

Photo courtesy Stelco Inc

Many larger industries treat their waste on-site, as at this physical/chemical treatment unit at STELCO in Hamilton.

What is Ontario doing to improve the industrial waste management situation?

Ontario's key needs are for new facilities capable of handling all liquid industrial and hazardous waste not now receiving adequate treatment and disposal, and for better incentives for waste reduction, re-use and recycling. Some actions have already been taken:

- In its *Blueprint for Waste Management in Ontario*, issued in June 1983, the Ontario Ministry of the Environment proposed a number of changes to environmental legislation and waste management procedures designed to provide better control of liquid industrial and hazardous waste treatment and disposal.
- The Ontario Government has created Ontario Waste Management Corporation (OWMC), a crown agency responsible for the development and implementation of a province-wide system for the treatment and disposal of liquid industrial and hazardous wastes. Also included in OWMC's role is the encouragement of more waste reduction, re-use, recycling, recovery and exchange.

3. The Ontario Waste Management Corporation

Dr. Donald A. Chant
President and
Chairman OWMC
Former university vice-president and provost. Past president and chairman of Pollution Probe. Professor of Zoology. Chairman of Scientific Advisory Committee, World Wildlife Fund (Canada). Former Chairman of the Canadian Environmental Advisory Council.

What is OWMC?

Established formally in July 1981 by the Ontario Legislature under the Ontario Waste Management Corporation Act, OWMC is a crown agency. It has a seven member Board of Directors to oversee its operation. Dr. Donald Chant is OWMC's Chairman and President.

OWMC is not a regulatory or "watchdog" agency. Responsibility for monitoring the transportation of industrial wastes throughout the province and for enforcing treatment and disposal standards rests with the Ministry of the Environment.

OWMC will be prepared to treat all types of liquid industrial and hazardous wastes, with the exception of radioactive wastes, which are under the authority of the Atomic Energy Control Board of Canada. OWMC will not treat domestic wastes, which are a municipal responsibility.

What is OWMC doing about our hazardous waste problem?

OWMC has identified three main tasks in developing an industrial waste management system for Ontario:

1. Defining the need
Determining the types and quantities of wastes in Ontario that are not receiving proper treatment and the nature and size of treatment and storage facilities required to manage these wastes safely.

2. Finding a site
Selecting a site or sites for the facilities which will provide maximum protection for human health and the environment.

3. Encouraging waste reduction
Developing ways and means to assist Ontario industries to reduce the volume of wastes requiring final treatment and disposal.

4. OWMC – its planned facilities

Role of the OWMC Laboratory

Before wastes are accepted for treatment a sample of each load will be tested in the laboratory to verify that it matches analytical data on the shipping manifest. The laboratory also will monitor the treatment processes and ensure that all wastes are fully treated and that any emissions and effluents meet required environmental standards.

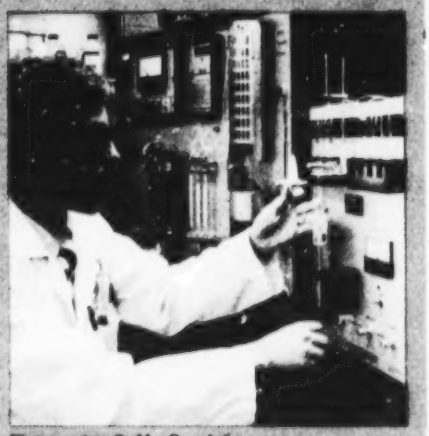


Photo courtesy Stablex Canada Inc.

What facilities will be part of OWMC's waste management system?

Industrial wastes can be divided into two broad categories each requiring separate forms of treatment. Organic wastes are those based on carbon and carbon compounds. In most cases these wastes are combustible and can be destroyed by high temperature incineration. Inorganic wastes are metal based and therefore non-combustible. They require a variety of physical and chemical treatment processes.

Although the final design of OWMC's proposed facilities is not yet decided, as shown on the accompanying diagram they probably will include:

A Rotary Kiln Incinerator.
For combustible organic wastes, capable of burning liquids, sludges and solids at over 1000°C (1382° Fahrenheit). Over 99.99 per cent of the organic material in the waste will be converted to either gas or to ash and slag residue. Contaminants will be removed from the gases by an extensive scrubber system. Any contaminants remaining in the stack emissions will be well within environmentally acceptable levels. Solid ash and slag residue from the kiln and the material collected by the scrubbers will be tested and, if necessary, further treated before being deposited in the engineered landfill.

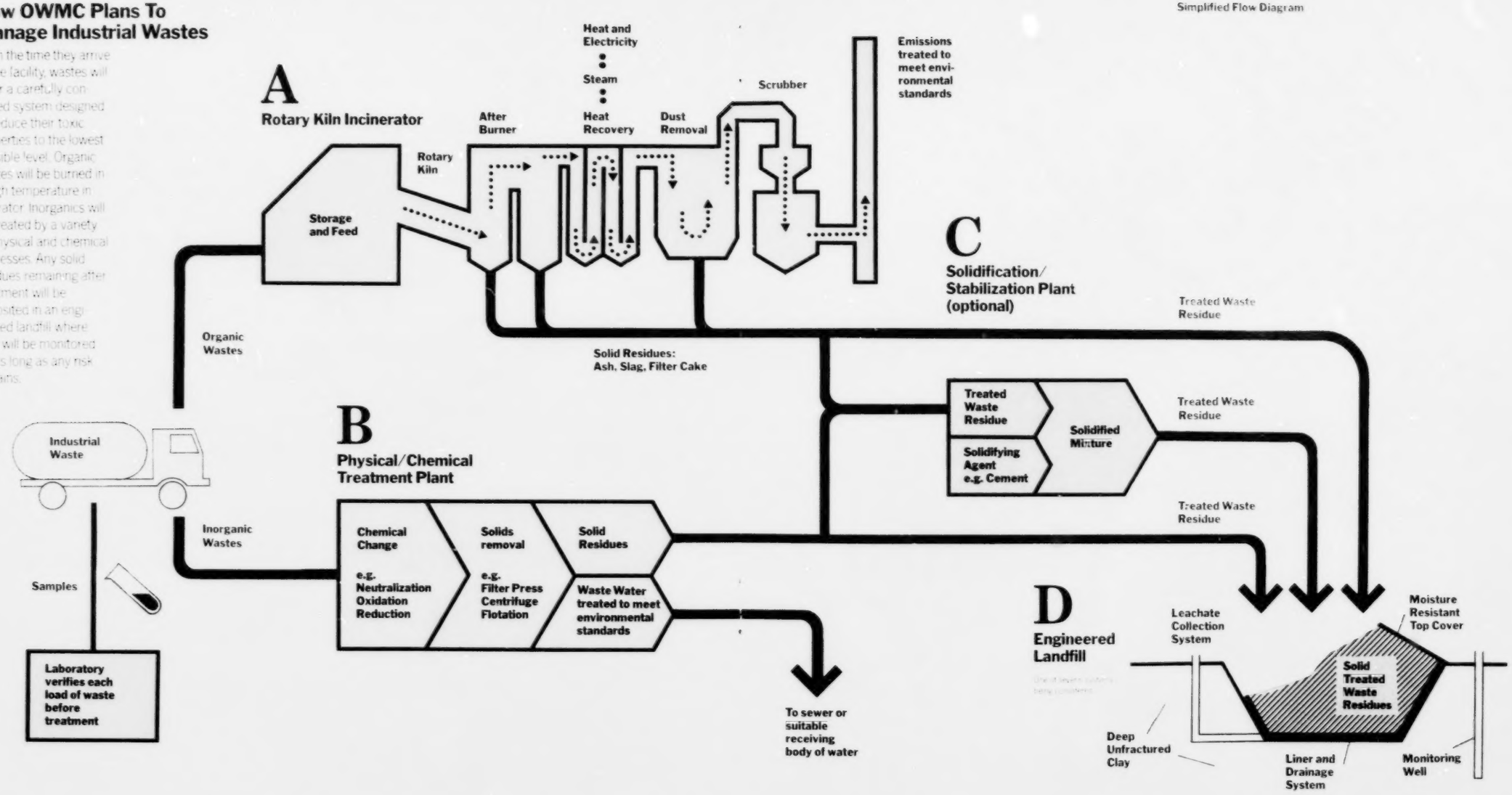
B Physical/Chemical Treatment Plant.
Where non-combustible inorganic wastes – mostly containing acids, bases and metals – will be treated using a variety of mechanical and chemical processes to reduce or eliminate the hazardous components. Solid residues from the treatment plant will be deposited in the engineered landfill. Any remaining separated wastewater will be treated to meet all necessary standards before being discharged into a sewer system or suitable body of water. If OWMC opts for total solidification of treatment process residues, there may, in fact, be no liquid effluent discharge.

C Solidification/Stabilization Plant.
Where treated residues of certain inorganic wastes (such as the heavy metals lead, chromium and mercury) will be chemically fixed and then "locked" into a solid material suitable for landfilling. The purpose of waste solidification/stabilization is to minimize the leaching of any contaminants by reducing the permeability and solubility of waste residues exposed to any water that might infiltrate the landfill.

How OWMC Plans To Manage Industrial Wastes

From the time they arrive at the facility, wastes will enter a carefully controlled system designed to reduce their toxic properties to the lowest possible level. Organic wastes will be burned in a high temperature incinerator. Inorganics will be treated by a variety of physical and chemical processes. Any solid residues remaining after treatment will be deposited in an engineered landfill where they will be monitored for as long as any risk remains.

Simplified Flow Diagram



D Engineered Landfill. Where residues from the above treatment processes will be deposited and monitored. The OWMC landfill will accept only the solid residues of treated wastes. It will not accept untreated hazardous wastes. The engineered landfill will feature engineered liner and drainage systems so that any leachate* can be collected and removed for re-treatment if necessary. A top cover will also be provided to restrict rain or melting snow from seeping into the landfill and forming leachate. Monitoring wells surrounding the landfill site will provide early warning of any leachate migration and allow time for remedial action.

*Leachate - a water extract formed when surface water or groundwater comes in contact with wastes in a landfill.

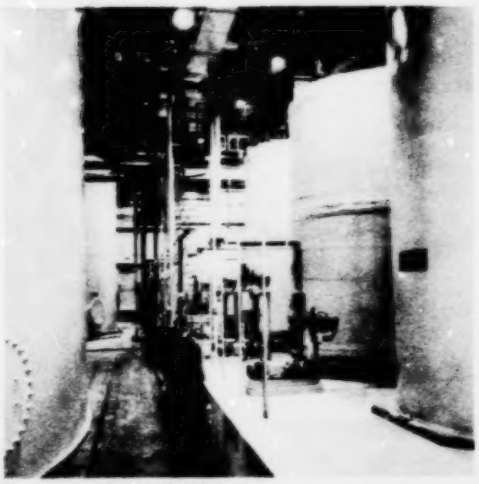


Photo courtesy Stablex Canada Inc

Part of the physical/chemical treatment plant at the Stablex facility, Blainville, Quebec.

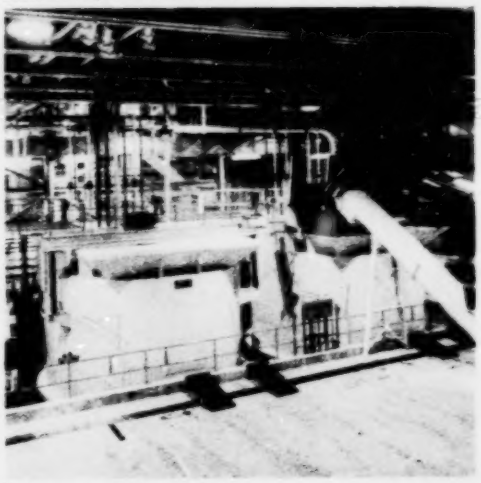


Photo courtesy Stablex Canada Inc

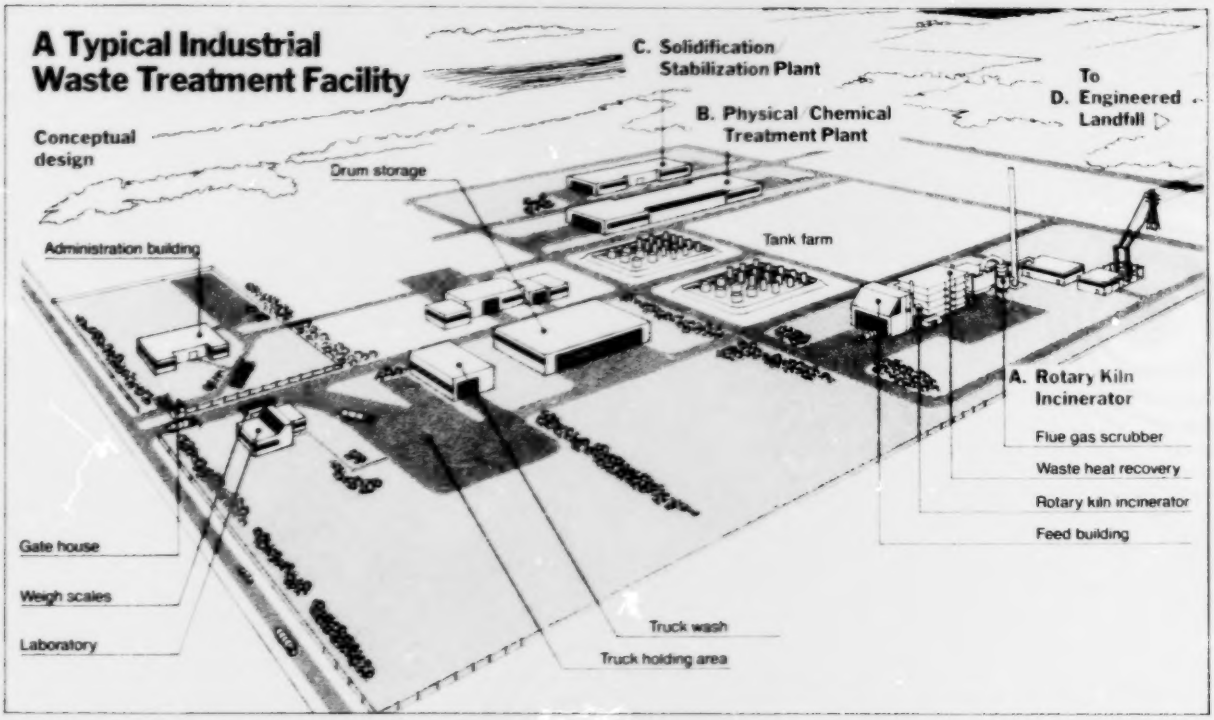
Pre-treated inorganic waste residues are mixed with solidifying agents in this unit at the Stablex plant.

What are the major siting considerations for these facilities?

Engineered landfill: The landfill will be located in an area of deep, uniform clay with a very slow rate of water movement (typically 3-5 centimetres or 1-2 inches a year). This will provide a natural safeguard against contamination of groundwater in case any leachate should escape from the landfill.

Incinerator and physical/chemical plant: For the incinerator a site is required where prevailing wind currents will ensure adequate dispersal of stack emissions. For both treatment facilities, the site must have a suitable layer of dense clay sub-soil to protect groundwater against accidental spills.

Many other factors enter into the siting decision. (The site selection process is explained more fully on the following pages.)



In this artist's conception the major components of OWMC's planned industrial waste treatment facilities can be seen. Treated waste residues from the incineration and physical/chemical processes will be removed to an engineered landfill site. (Not shown.)

How will OWMC's facilities affect the communities where they are sited?

Until final site locations are identified, it is difficult to predict exactly what the effects of the facilities will be on local communities. However, we do know that in Europe, where similar facilities have been operating for nearly 10 years, there have been no significant health or environmental problems.

Other types of impacts may include:
- extra traffic caused by trucks travelling to and from the facilities;
- some possible noise and smells (although these are not expected to be noticeable beyond the boundaries of the facilities themselves);
- visual impact of a new, industrial style plant;
- land values in the vicinity of the facilities could be affected (either upwards or downwards depending on the local situation).

Detailed community impact studies will be conducted and every effort will be made to minimize negative effects and to compensate those directly affected.

Positive benefits may also result from the facilities. These include:
- an estimated 80-120 new permanent jobs. It is expected that at least half of these could be filled by local residents (depending on the availability of both skilled and unskilled local labour). Training will be provided for local residents where appropriate.
- new business for local merchants and services such as stores, mechanical repair shops, hotel/motels, laundries and restaurants.
- possible new or upgraded roads, bridges and emergency response facilities.

5. OWMC – the search for sites

How is OWMC selecting a site (or sites)?

The search for suitable sites involves a five phase process that gradually narrows the search area in a series of planned steps. At each step an increasingly detailed level of information is considered. Opportunities for public review and discussion are built into the site selection process at each key decision point.

It has not yet been decided if all OWMC's treatment facilities and the landfill should be located on one site, or dispersed over two or three sites.

Step 1

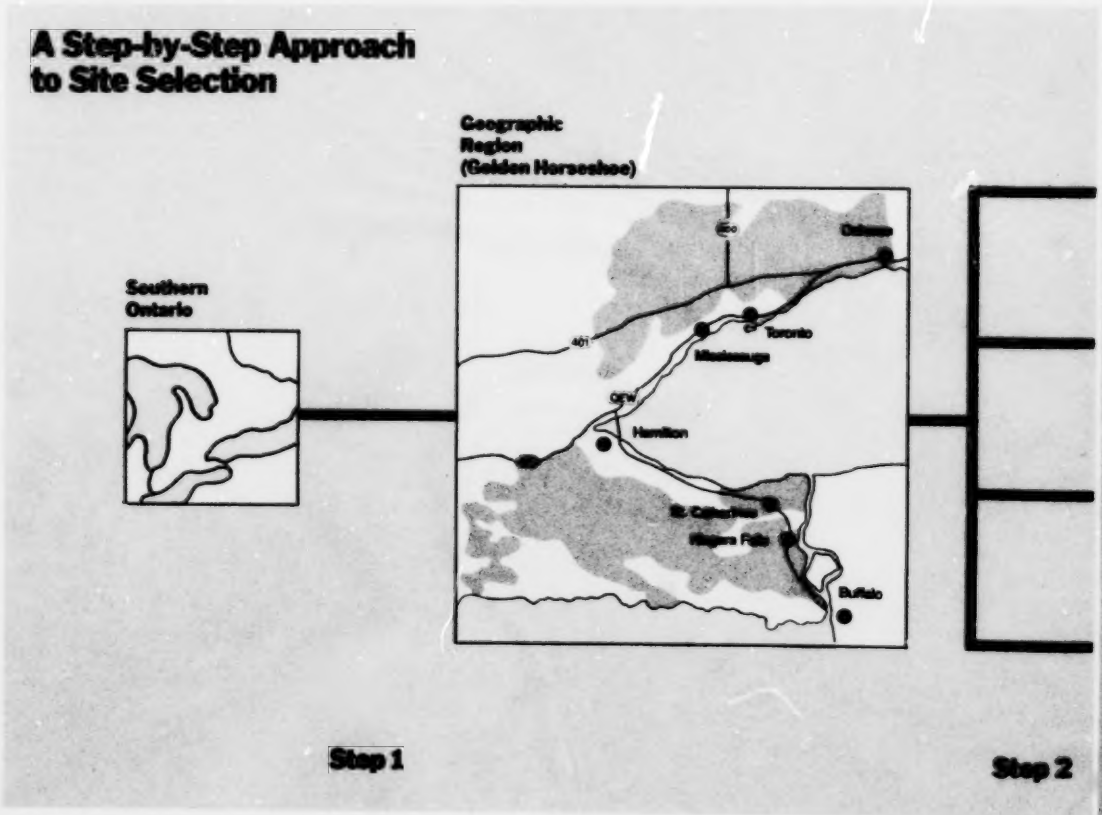
Two key studies were conducted indicating that:

1. At least 70% of the province's liquid industrial wastes are generated in and near the Golden Horseshoe region around the western end of Lake Ontario.

2. This region also contains some of the province's best deposits of the type of clay soils required for the safe location of waste management facilities.

Based on this information, OWMC narrowed the search to the Golden Horseshoe region, citing reduced transportation risks and costs as the key reason for this decision.

This step was completed in January 1983. (See OWMC Phase 2 Report.)*



Step 2

After more detailed studies of transportation access and distances, specialty agriculture, geological and hydrogeological** conditions, atmospheric conditions and the location of major built-up areas, OWMC identified *Candidate Areas* within the Golden Horseshoe. These were broad areas of land within which there was a high likelihood of finding suitable specific sites.

This step was completed in May 1983. (See OWMC Phase 3 Interim Report.)

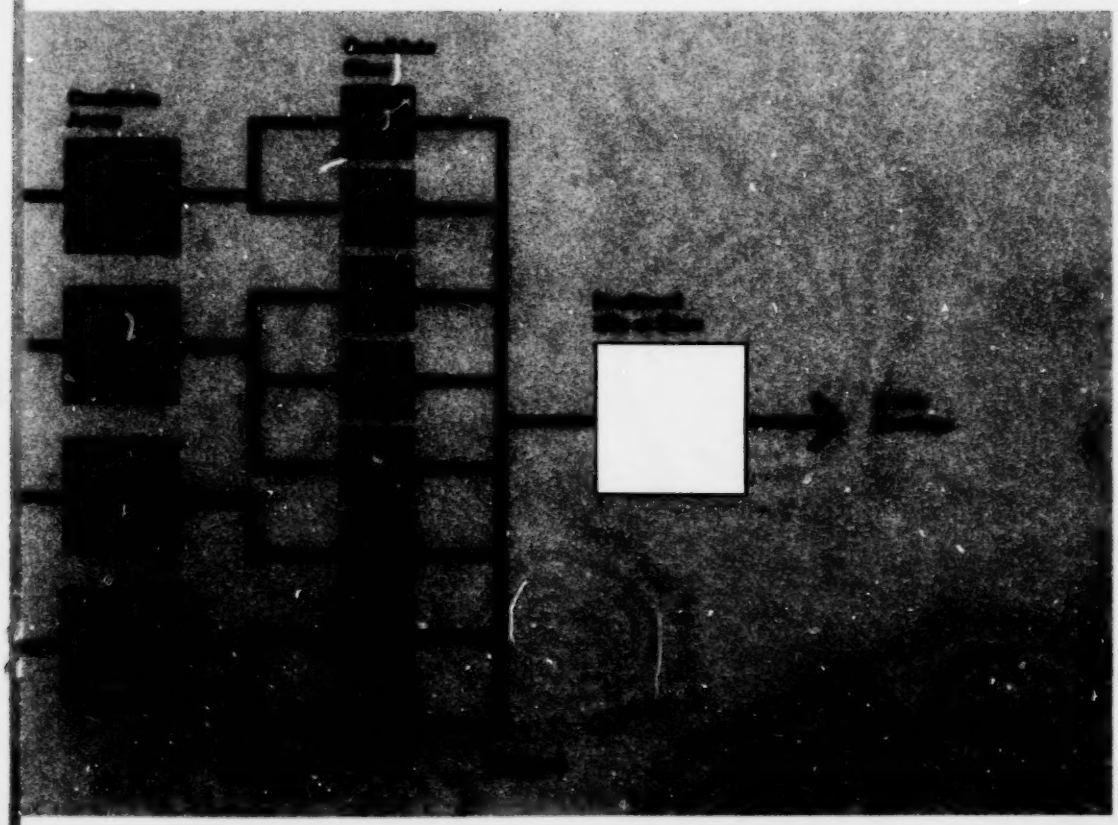
Step 3

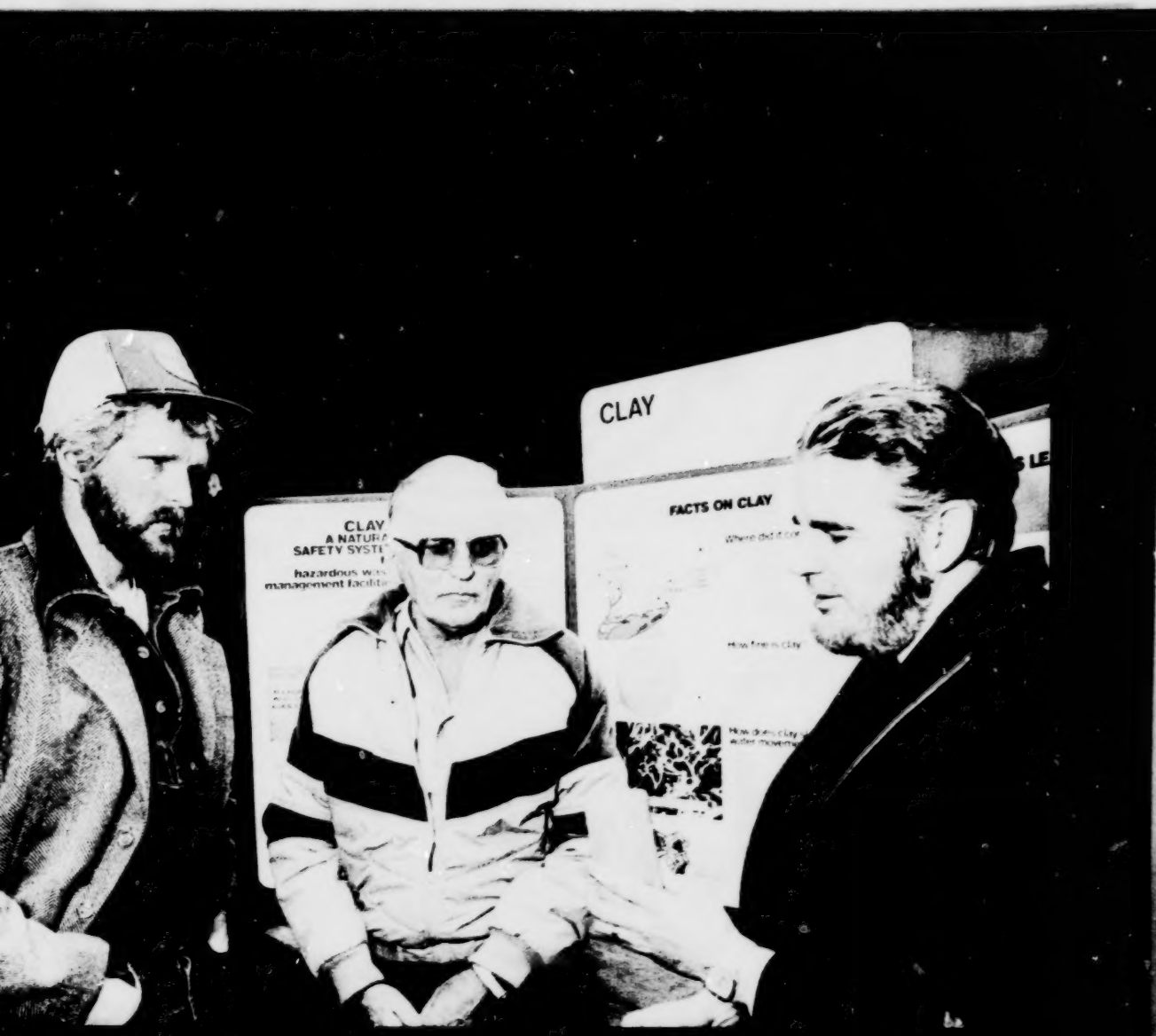
During this step, extensive data collection and mapping of Candidate Areas was carried out using more than 50 different factors under the following headings:

- Physical and biological environment and resources,
- Transportation,
- Land use and land ownership,
- Community impacts (socio-economic),
- Agriculture,
- Facility design considerations.

* Copies of all OWMC Phase general and technical reports are on deposit at regional libraries throughout Southern Ontario and at selected local and university libraries throughout the Golden Horseshoe region. Reports are also available directly on request from OWMC. (See reply card, inside back cover).

** Hydrogeology is the study of underground soil and rock conditions and how they affect underground water movement.





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Based on these data, less suitable areas progressively were set aside and potential site locations identified. An initial comparison and evaluation of these locations was carried out and those less suitable were set aside. After site boundaries had been identified, OWMC announced a list of *8 Candidate Sites* for examination in greater detail in Step 4.

This step was completed in March 1984. (See OWMC Phase 3 Report.)

Step 4

Step 4 will identify a *Preferred Site* or sites. It will involve the collection of further, more detailed information about the eight Candidate Sites. To some extent these activities will vary depending on the site consideration and the concerns and considerations raised by individuals, agencies and municipalities.

This work will take several months and will conclude with the selection of a Preferred Site or sites and the release of a Phase 4 Interim Report.

Step 5

In Step 5 the Preferred Site(s) will be examined in detail including on-site drilling, surveys and testing.

OWMC will also be studying specific local concerns such as: noise and dust from increased truck traffic along access routes; municipal services and finance; and the visual impact of an OWMC facility on the surrounding landscape.

Step 5 will conclude when OWMC's detailed proposals are submitted to the Hearing Panel on Industrial Waste Management in Ontario.

6. Getting involved

Who has the final say in selecting sites?

Once the Ontario Waste Management Corporation has completed the selection of its preferred site or sites, formal public hearings will be held. OWMC will present its detailed proposals to the Hearing Panel on Industrial Waste Management in Ontario. This panel is an independent body appointed by the Ontario Government for the sole purpose of assessing the suitability and safety of OWMC's proposed technology and location for its waste management facilities.

After the Hearing Panel has studied OWMC's proposals and conducted hearings to obtain public reaction to them, it will submit its recommendations to the Ontario Cabinet.

Is there financial assistance for public hearings participants?

OWMC has agreed to provide financial assistance for eligible hearings participants on the basis of criteria to be established and administered by the Hearing Panel on Industrial Waste Management in Ontario. For further information contact:

The Hearing Panel on Industrial Waste Management in Ontario
1 St. Clair Ave. W., 9th Floor
Toronto, Ontario M4V 1K6
Telephone: (416) 965-8051

How can you get involved in the waste management decision process?

- Join an environmental or citizen's group in your community involved in hazardous waste management issues.
- Put your name on OWMC's mailing list to receive copies of the Corporation's newsletter *Exchange* and other OWMC literature. (See reply card below)
- Read about hazardous wastes and how they can be managed safely. (See suggested reading list)
- Attend OWMC public meetings and information days in your area. Watch for announcements in your local newspaper.

Suggested Reading List

- Campbell, M. and W. Glenn. 1982. *Profit from Pollution Prevention, A Guide to Industrial Waste Reduction and Recycling.* Published by The Pollution Probe Foundation, 12 Madison Avenue, Toronto, Ontario, M5R 2S1.

  This very practical 400 page book is a compilation of case histories illustrating methods for recycling materials. It documents hundreds of success stories about firms that have turned waste products into financial assets.

  Available from bookstores. $25.00.

- Environmental Action Foundation, 1982. *Waste and Toxic Substances: Resource Guide.* Published by the Environmental Action Foundation, Washington, D.C.

  Lists over 250 publications, articles and films on waste and toxic substances.

  Available from: The Environmental Action Foundation, 724 Dupont Circle Building Northwest, Washington, D.C., U.S.A. 20036. $2.00 U.S. plus postage.

- Environmental Action Foundation, 1978. *The Household Pollutants Guide.* Published by the Environmental Action Foundation, Washington, D.C.

  This guide explains how to survey your home for everyday consumer products which may contain toxic or hazardous substances.

  Available from: The Environmental Action Foundation, 724 Dupont Circle Building Northwest, Washington, D.C., U.S.A. 20036. $2.00 U.S. plus postage.

- Environment Canada, 1981. *The Hazardous Waste Problem: Let's Find Some Common Ground.* Published by Environment Canada.

  A booklet providing a quick summary of the hazardous waste challenge in Canada, reviewing European waste management facilities and suggesting some directions for action.

  Available from: Environment Canada, Ontario Regional Office, 25 St. Clair Ave. E., 7th Floor, Toronto, Ontario M4T 1M2. Free of charge.

- Hall, Ross H., and D.A. Chant, August, 1979. *Ecotoxicity: Responsibilities and Opportunities.* Published by the Canadian Environmental Advisory Council.

  Examines the effects of chemicals in our environment. The booklet discusses the laissez-faire attitude our society has about ecotoxity and offers a number of recommendations to alleviate the problem.

  Available from: The Executive Secretary, Canadian Environmental Advisory Council, c/o Environment Canada, Ottawa, Ontario K1A 0H3. Free of charge.

- Hazardous Waste Dialogue Group, 1983. *Siting Hazardous Waste Management Facilities: A Handbook.* Published by the Conservation Foundation, Chemical Manufacturers' Association, National Audubon Society.

  Written as a practical handbook for those faced with hazardous waste facilities locating in their community. It contains questions and information to help citizens seek the information they need from the proponents of facilities.

  Available from: National Audubon Society, 115 Indian Mound Trail, Tavernier, Florida, U.S.A. 33070. $3 U.S. single copy. $2 U.S. – 10 copies or more.

- Jackson, John, Phil Weller and The Waterloo Public Interest Research Group, 1982. *Chemical Nightmare, The Unnecessary Legacy of Toxic Wastes.* Published by Between the Lines.

  A description of many examples of chemical waste mismanagement in Ontario is presented along with an analysis of this problem as one of today's major environmental tragedies. Besides a critique of current waste management strategies, the authors elaborate a possible waste management program.

  Available from: Bookstores or Between the Lines, 475 Bloor Street West, Toronto, Ontario M5S 1X7. $5.50.

- Ministry of the Environment (Ontario) June 1983. *Blueprint for Waste Management in Ontario.*

  The Ministry's preliminary proposals for changes to Ontario's environmental regulations, standards and guidelines. An important document for anyone wishing to understand Ontario's present stance on waste management issues.

  Available from: Mr. T.D. Armstrong, Blueprint Coordinator, c/o Waste Management Branch, Ontario Ministry of the Environment, 135 St. Clair Ave. West, Toronto, Ontario M4V 1P5.

- Pratt, Bette, 1982. *Canadian Conservation Directory, Fourth Edition.* Published by Canadian Nature Federation.

  An invaluable guide to the many organizations working to safeguard the Canadian environment.
  Citizen's groups, government agencies and departments, advisory councils, nature centres, museums of natural history, consulting firms and professional organizations.

  Available from: Canadian Nature Federation, 75 Albert Street, Suite 203, Ottawa, Ontario K1P 6G1. $5.00 plus 50¢ postage and handling.

A Quick Summary

- Ontario currently faces serious hazardous industrial waste problems. Many industrial wastes need better treatment and disposal to provide adequate protection for human health and the environment.

- Efforts must also be made to ensure that we reduce the amounts of wastes produced, and that those which are unavoidably generated are reclaimed and reused wherever possible.

- Most large industrial plants have on-site waste treatment and disposal operations, but medium and small businesses need the services of easily accessible, off-site waste management facilities.

- To meet these needs, the Ontario Waste Management Corporation is planning a complex of facilities to be located close to where the majority of Ontario's hazardous wastes are produced, somewhere in the Golden Horseshoe area around the western end of Lake Ontario.

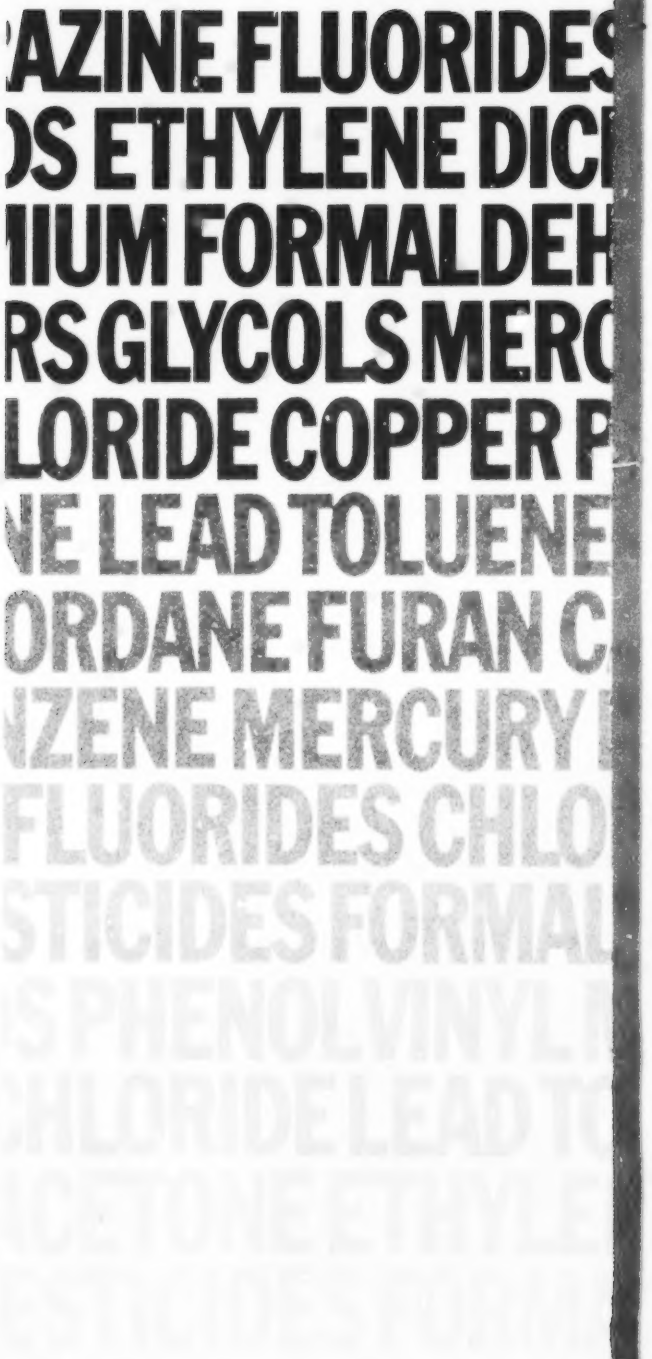
- Concerned citizens and communities that might be affected are being consulted at every step in the process of developing these facilities. As well, they will have the opportunity to participate in public hearings convened by the Hearing Panel on Industrial Waste Management in Ontario, an independent body appointed by the Ontario government to review OWMC's proposals.

- Financial assistance to prepare for the hearings will be available to eligible parties through the Hearing Panel.

How you can contact the Ontario Waste Management Corporation

Need information right away? Call the Waste-Line toll-free:
1-800-268-1179 or in Toronto (416) 923-2918

Or write:
OWMC
2 Bloor Street West
11th Floor
Toronto, Ontario
M4W 3E2



May 1984
ISBN 0-7743-9194-4

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